

2005 NOV

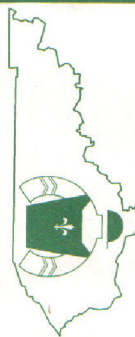
The City of Paris Combined Utilities received a notice of violation (NOV) for failing to meet certain mandatory language requirements stated in regulation 401 KAR 8:075 regarding the water quality report for 2004. This was not a threat to the public's safety as there were no MCLs exceeded relating to any water quality monitoring parameter. This was a reporting error only. Additional language was needed to describe our source water, lead and copper testing results, and other detected contaminants, as well as required language for immuno-compromised individuals. All the corrections needed are reflected in this year's report. If you need further information regarding this NOV, you can contact Kevin Crump at 987-2118 during normal business hours.

CRYPTOSPORIDIUM

Cryptosporidium is an intestinal parasite that is sometimes found in surface water sources such as Stoner Creek. It can cause intestinal flu-like symptoms that could possibly be a severe health risk to immuno-compromised individuals. Healthy individuals should recover from this infection with no problems. Paris began monthly testing of Stoner Creek for cryptosporidium in June of 2005 with no detections occurring.



The City of Paris
Combined Utilities
525 High Street
Paris KY 40361

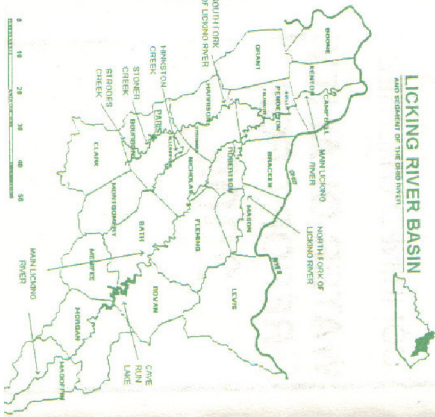


The City of Paris
"THOROUGHbred CAPITAL OF THE WORLD"

COMBINED UTILITIES
WATER QUALITY
REPORT FOR
2005

WHERE DOES OUR WATER COME FROM?

The City of Paris uses Stoner Creek, a surface water, as its sole source of drinking water. Stoner Creek originates in Clark County as does Strooks Creek, which is a major tributary of Stoner Creek. Both are part of the Licking River drainage basin. Our raw water supply is relatively good compared to some supplies as there is not a lot of industrial pollution. However, we are plagued by runoff from farm land. The fertilizers from the runoff can cause heavy algae bloom which in turn creates treatment problems. We have four dams on our raw water source with a total gross storage of 378 million gallons. Plant personnel maintain the dams that the City of Paris controls on Stoner Creek. There have not been any major problems with drought since two of our dams were raised in the 1950's.



HOW IS OUR WATER TREATED?

Water from Stoner Creek is pumped into the rapid mix by the raw water (low service) pumps. It is pumped in at a rate of 2,100 gallons per minute. This flow rate is important in that all detention times throughout the treatment process are based on this flow rate. Here, alum, lime, sodium permanganate and carbon are added and thoroughly mixed with the creek water. Dosages will vary depending on the water conditions. Detention time in this basin is one (1) minute.

It then flows into the coagulation basin where it is slowly mixed by two (2) mechanical paddles. As the water flows through, the chemicals reacting with the particulate matter starts to form what is known as floc particles. These particles continue to grow in size and mass as they continue through this basin. Also, the sodium permanganate is reacting during this time to oxidize any metals (example: iron, manganese) that may be dissolved in the water as well as oxidizing other organic materials present. The detention time for this basin is forty (40) minutes. Chlorine is added for disinfection at the effluent (END) of this basin.

The water then flows into the settling basins where the floc particles settle to the bottom of these basins. The settled water flows to the filters. The detention time of the settling basins is approximately four (4) hours.

There are four (4) filters that are called dual media rapid sand filters. They utilize both sand and anthracite as the filtering medium. The filters are equipped with rate of flow gauges and controllers that maintain a constant and balanced flow through each filter. These filters retain any particles that may not have been removed in the settling basins. They filter at a rate of two (2) gallons per square foot per minute. Chemicals added in the filter effluent are fluoride, ammonium and chlorine. Caustic soda is added to help control the pH (pH indicates whether the water is an acid or a base).

When the water leaves the filters, it enters the clearwells where it is stored on site. The treatment process is complete other than the contact time with the post-chlorine or chloramines which is added after the filters. By the time the finished water reaches the high

service pumps, the chlorine contact time is complete and the water is then pumped into the distribution system where it reaches the City of Paris customers. Water is stored in a standpipe and the two (2) elevated tanks that are part of the distribution system. Samples are taken daily and tested in our lab to help ensure the quality of the end product.

CHEMICALS USED

Alum - The chemical name is aluminum sulfate. This is used to help form floc which helps settle the particulate matter out of the water.

Lime - The chemical name is calcium hydroxide. It helps provide additional alkalinity for the formation of floc and helps to adjust the pH of the water.

Chlorine - This is used to disinfect the water by inactivating harmful bacteria.

Sodium Permanganate - This is used to oxidize metals such as iron and/or manganese and other organics. It also helps control taste and odor problems.

Powdered Carbon - Also called PAC, (powdered activated carbon) This is added to help reduce taste and odor problems through adsorption.

Caustic Soda - The chemical name is sodium hydroxide. This is used occasionally for pH control.

Fluoride - The chemical name is hydrofluosilicic acid. Its sole purpose is to prevent tooth decay.

Ammonium - Also called ammoniacous ammonia. This combines with chlorine to form chloramines.

IS OUR DRINKING WATER SAFE?

Yes. Our drinking water is monitored daily at the plant and in the distribution system to ensure proper treatment. We also send water samples to our contracted certified lab to check for over 100 possible contaminants which are listed with their results in this brochure. Our system did receive an NOV for 2005 regarding the water quality report for 2004. We failed to use the mandatory language for certain required descriptions and explanations. (see NOV section)

Water Quality Information

Substance	MCL	MCLG	High-Low Range Detected	Annual Average	Violations	Source
Arsenic (ppb)	50	0	1 (one sample)	1	NONE	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste.
Barium (ppm)	2	2	0.019 (one sample)	0.019	NONE	Discharge of filling waste; discharge from metal refineries; erosion of natural deposits.
Chloramines (ppm)	MROD - 4	MROD-G - 4	3.5 - 1.6	2.26	NONE	Water additive used to control microbes.
Chlorine (ppm)	MROD - 4	MROD-G - 4	2.8 - 0.4	1.18	NONE	Water additive used to control microbes.
Fluoride (ppm)	4	4	1.35 - 0.86	1.16	NONE	Erosion of natural deposits; water additive that provides strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	<0.06 - 1.62	0.75	NONE	Runoff from fertilizer use; leaching from septic tanks; sewage erosion of natural deposits.
Combined Radium (pCi/L)	5	0	BDL - 1.0	<0.76	NONE	Erosion of natural deposits.
Total Coliform (colony-forming units/100mL)	5% Samples Positive	N/A	0%	0	NONE	Naturally present in the environment.
Total Trihalomethanes (ppb)	80	N/A	30 - 66	64 (Hepburn PAA)	NONE	By-product of drinking water disinfection.
Haloacetic Acids (ppb)	60	N/A	27 - 66	59 (Hepburn PAA)	NONE	By-product of drinking water disinfection.
TOC* (Total Organic Carbon)	TT	N/A	0.16 - 2.06	1.52 (Hepburn PAA)	NONE	Naturally present in the environment.
Turbidity (NTU)	TT	N/A	0.09 - 0.012	100% of samples <1.0	NONE	Soil runoff.

Substance	MCL	MCLG	90th Percentile	Number of samples above Action Level	High - Low Range Detected	Violations	Source
Lead (ppb)	154L	0	3	0	8 - <1	NONE	Corrosion of household plumbing systems; erosion of natural deposits.
Copper (ppm)	1.34L	1.3	0.13	0	0.33 - 0.005	NONE	Corrosion of household plumbing systems; erosion of natural deposits.

*XX are calculated figuring a ratio of actual percentage removed divided by required percentage removed. To be in compliance, the ratio must be greater than or equal to 1.0.

ABBREVIATIONS

ppb - Parts Per Billion
MROD - Maximum Residual Disinfectant level
MROD-G - Maximum Residual Disinfectant Goal
N/A - Not Applicable
pCi/L - Picocuries Per Liter
NTU - Nephelometric Turbidity Units
TT - Treatment Technique - equal to - Less Than
Greater Than
MCL - Maximum Contaminant Level
EAL - Running Annual Average
MCL-G - Maximum Contaminant Level Goal
NDY - Notice of Violation
SVTR - Surface Water Treatment Rule

DEFINITIONS

MCL-G - Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health.
MCL - Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCL-Gs as possible using the best available treatment technology.
MROD - Maximum Residual Disinfectant level, or the most disinfectant in the water system that is allowed by regulation.
MROD-G - Maximum Residual Disinfectant Goal, or the level of disinfectant in drinking water at which there are no known health risk.
AL - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
TT - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.
pCi/L - Picocuries per Liter, a measure of radiation.
NDY - Violations issued by the Division of Water.
EAL - Running annual average, a figured quarterly using the average of the most recent quarter added with the (immediately) previous quarters and divided by four (4).
Most samples are the most recent results through 12/31/2015 and in accordance with the sampling schedule 401 KAR Chapter 8. Testing samples for radium in these 3 years periods and are part of a multi-year cycle which runs 1/2002 to 12/31/2010.

SOURCE WATER ASSESSMENT AND PROTECTION PLAN

SWAMP

Following is a summary of the Paris system's susceptibility to contamination, which is part of the completed Source Water Assessment Protection Plan (SWAPP) and the Paris Water Plan at 98-2118 to make present call for the City of Paris. The Paris Water Plan is available for more than 10 years. An analysis of the susceptibility of the Paris Water supply to contamination indicates that this susceptibility is generally moderate. However there are a few areas of high concern. Several highly bridges in the immediate vicinity of the intake may pose a potential threat to the water supply. An accidental release of contaminants from any of these sites could reach the intake. The same is true for railroads that occur between KY 627 and KY 1678 near Kennedy Creek. In addition, areas of row crops, municipal sewer lines, A KPDIS permitted discharger and a waste generator and/or transporter are causes for concern. Finally, there are numerous permitted operations and activities and other potential contaminant sources of moderate concern within the greater watershed that cumulatively increase the potential for the release of contaminants within the area. These potential contaminant sources include septic, farm septic systems, major roads, transportation chemical spills.

WHAT IS THE REASON FOR THIS REPORT?

The 1996 Safe Drinking Water Act Amendments require that, beginning in October 1999, all community water systems provide customers with an annual report on the quality of their drinking water.

WHY ARE THERE CONTAMINANTS IN THE WATER?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk. More information about contaminants and potential health risk can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline: (800-426-4791). Bottled water is governed by the Food and Drug Administration and must provide the same level of protection against contaminants as public drinking water regulations do.

The sources of drinking water (both tap and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Example: Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Example: Some people who drink water containing barium in excess of the maximum contaminant level over many years could experience and increase in their blood pressure.
- Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of

industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and residential uses. Example: Some people who drink water containing atrazine well in excess of the maximum contaminant level over many years could experience problems with their cardiovascular system or reproductive difficulties.

- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. Example: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the maximum contaminant level over many years may have an increased risk of getting cancer.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses. This is included in synthetic organic contaminants and the unregulated contaminants.

SHOULD I TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

GENERAL SYSTEM INFORMATION

The plant is staffed by the full time operators who hold both treatment and distribution licenses with the State of Kentucky. There is also a full time laboratory technician to perform microbiological analysis in the plant as well as the distribution system. The laboratory is certified with the State Division of Water for microbiological analysis. In addition, the city also has three certified standby operators who work in other departments within the city. Additional duties of

the operators are: collecting distribution samples and servicing all valves and related equipment at the standpipe and the elevated tanks as well as in-plant maintenance. Paris has approximately 4,618 water meters with an estimated total population served of 15,239 as of December, 2005. With two elevated storage tanks and one standpipe, our distribution system has a total storage of 2.45 million gallons of water. There is approximately 150 miles of pipe in the distribution system. The system employs 5 full time distribution operators, all are State certified. Average usage is 1.5 million gallons per day and the plant's total treatment capacity is 3.0 million gallons per day. We are operating about 50% of our total treatment capacity. A risk management plan, as required by law, was created in 1999 and updated in 2004 for the water treatment plant in the event that a chlorine leak should occur. The City of Paris Combined Utilities is a member of the American Water Works Association and its operators are members of the Kentucky Water and Wastewater Operators Association. Paris is also a member of the Bluegrass Water Supply Commission, a group consisting of nine regional municipalities that are working to resolve central Kentucky's water supply deficit.

HOW CAN I BECOME MORE INVOLVED?

The water system is municipally owned which means that it is owned by the City of Paris. It is managed by the plant superintendent who reports to the city manager who in turn reports to the Mayor and city commissioners. If you have billing or service questions, help can be obtained by calling the city office at 987-2110. Technical questions about water treatment can be directed to the plant superintendent by calling 987-2118. If you need emergency service after hours or on weekends or holidays, call central communications at 987-2100. The city commission meetings are held every second and fourth Tuesdays of the month unless otherwise announced. The meetings begin at 7:00 p.m. and are held at the commission chambers of the Paris Municipal Center, 525 High Street.

Este informe contiene información muy importante. Tradúzcalo o háblelo con alguien que lo entienda bien.